

## CLAIMS

I Claim:

1. A cam assisted wheel brake suitable for use with a bicycle, comprising:
  - 5       a) a first arm;
  - b) a second arm;
  - c) a screw for providing a pivot point for said first and second arms and also  
              for providing an attachment mechanism for attachment to a fork of said  
              bicycle;
  - 10       d) a cam lever having a lobe attached to said first arm by a brake cable; and,
  - e) a spring for providing an opposing force to said cable and which can open  
              said brake.
2. The cam-assisted wheel brake of claim 1, further comprising at least one  
brake pad associated with said first arm.
- 15   3. The cam-assisted wheel brake of claim 1, further comprising a brake pad  
associated with said first arm and a brake pad associated with said second  
arm.
4. The cam-assisted wheel brake of claim 1, wherein said first arm and said  
second arm are pivotably movable from an open position to a closed position  
20       so as to engage said wheel when said lever is actuated.

5. A brake apparatus for a wheeled vehicle, said wheeled vehicle having at least one wheel including a rim, said brake apparatus comprising:

a) a first arm having

i) a first portion for attaching a brake pad thereto,

5 ii) a middle portion having a bore extending through a portion thereof,

iii) a second portion having a bore extending therethrough, and

iv) an extension for accepting a brake cable adjuster;

b) a second arm having

i) a first portion for attaching a brake pad thereto,

10 ii) a middle portion having a bore extending through a portion thereof,

iii) a finger portion extending toward said first arm;

c) a bolt extending through said first arm second portion bore and through said second arm middle portion bore for providing a pivot point for said first and second arms and also for providing an attachment mechanism for

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attachment to said wheeled vehicle;

d) a cam lever having a top edge and a bottom edge and having

i) a first portion having a bore extending through a portion thereof,

- ii) a middle portion a curved edge portion extending from said top edge,  
said curved edge portion being capable of contacting said second arm  
finger portion;
  - iii) a second portion having a bore extending through a portion thereof,
  - 5 iv) a pin extending through said cam lever second portion bore, said pin  
permitting said cam lever to pivot about said pin, said pin being  
associated with said first arm; and,
  - e) a spring associated with said first arm and said second arm.
6. The brake apparatus of Claim 5, further comprising a quick release  
10 mechanism comprising
- a) a lever,
  - b) a first pin extending from said lever and extending through said first arm  
second portion bore,
  - c) a second pin extending from said first pin, said second pin having an axis  
15 being offset from the axis of said first pin, said second pin pivotably  
passing through said cam lever second portion bore.
7. The brake apparatus of Claim 6, further comprising a fastener for maintaining  
said cam lever on said lever second pin.

8. The brake apparatus of Claim 5, further comprising a screw extending substantially through said cam lever first portion bore.
9. The brake apparatus of Claim 5, further comprising a hollow screw passing through a bore defined in said first arm first extension, said hollow screw  
5 being sized to receive a portion of said brake cable.
10. The brake apparatus of Claim 5, further comprising a nut sized to fit over said bolt.
11. A brake apparatus for a wheeled vehicle, said wheeled vehicle having at least one wheel including a rim, said brake apparatus comprising:
  - 10 a) a first arm having
    - i) a first portion for attaching a brake pad thereto,
    - ii) a middle portion having a bore extending through a portion thereof,
    - iii) a second portion having a bore extending therethrough, and
    - iv) an extension for accepting a brake cable adjuster;
  - 15 b) a second arm having
    - i) a first portion for attaching a brake pad thereto,
    - ii) a middle portion having a bore extending through a portion thereof,
    - iii) a finger portion extending toward said first arm;

- c) a bolt extending through said first arm second portion bore and through said second arm middle portion bore for providing a pivot point for said first and second arms and also for providing an attachment mechanism for attachment to said wheeled vehicle;
- 5 d) a cam lever having a top edge and a bottom edge and having
  - i) a first portion having a bore extending through a portion thereof,
  - ii) a middle portion a curved edge portion extending from said top edge, said curved edge portion being capable of contacting said second arm finger portion;
  - 10 iii) a second portion having a bore extending through a portion thereof,
  - iv) a pin extending through said cam lever second portion bore, said pin permitting said cam lever to pivot about said pin, said pin being associated with said first arm;
- e) a spring associated with said first arm and said second arm; and,
- 15 f) a quick release mechanism comprising
  - i) a lever,
  - ii) a first pin extending from said lever and extending through said first arm second portion bore,

iii) a second pin extending from said first pin, said second pin having an axis being offset from the axis of said first pin, said second pin pivotably passing through said cam lever second portion bore,

said quick release mechanism when operated causes said cam lever to shift from a first engaged orientation to a second release orientation whereby when shifted into said second release orientation causes said first arm first portion and said second arm first portion to move outward and away with respect to each other so that a wheel rim disposed therebetween can be removed.

12. A wheeled vehicle having a brake system, comprising:

- a) a frame;
- b) at least one fork extending from said frame;
- c) at least one wheel, each said wheel comprising a rim and an axle, at least axle being associated with each fork
- d) a brake mechanism associated with said rim and said frame, comprising,
  - i) a first arm having
    - (1) a first portion for attaching a brake pad thereto,
    - (2) a middle portion having a bore extending through a portion thereof,

(3) a second portion having a bore extending therethrough, and

(4) an extension for accepting a brake cable adjuster;

ii) a second arm having

(1) a first portion for attaching a brake pad thereto,

5 (2) a middle portion having a bore extending through a portion thereof,

(3) a finger portion extending toward said first arm;

10 iii) a bolt extending through said first arm second portion bore and through said second arm middle portion bore for providing a pivot point for said first and second arms and also for providing an attachment mechanism for attachment to said wheeled vehicle;

iv) a brake cable having a first end and a second end;

v) a cam lever having a top edge and a bottom edge and having

(1) a first portion having a bore extending through a portion thereof,

15 (2) a middle portion a curved edge portion extending from said top edge, said curved edge portion being capable of contacting said second arm finger portion;

(3) a second portion having a bore extending through a portion thereof,

(4) a pin extending through said cam lever second portion bore, said pin permitting said cam lever to pivot about said pin, said pin being associated with said first arm;

vi) a spring associated with said first arm and said second arm; and,

5 e) a lever for actuating said brake system, said lever being operatively connected to said second end of said brake cable and to said frame.

13. The wheeled vehicle of Claim 12, further comprising a quick release mechanism comprising

a) a lever,

10 b) a first pin extending from said lever and extending through said first arm second portion bore,

c) a second pin extending from said first pin, said second pin having an axis being offset from the axis of said first pin, said second pin pivotably passing through said cam lever second portion bore.

15 14. The wheeled vehicle of Claim 13, further comprising a fastener for maintaining said cam lever on said lever second pin.

15. The wheeled vehicle of Claim 12, further comprising a screw extending substantially through said cam lever first portion bore.



16. The wheeled vehicle of Claim 12, further comprising a hollow screw passing through a bore defined in said first arm first extension, said hollow screw being sized to receive a portion of said brake cable.

17. The wheeled vehicle of Claim 12, further comprising a nut sized to fit over

5      said bolt.